

OVARIES:

Are attached to the lateral pelvic walls by the suspensory ligament containing the ovarian vessels and to the cornua of the uterus by a ligamentous condensation of the broad ligament.

- Each ovary is (3x2x1cm) in size in the resting state, but will increase in the resting state but will increase in size during physiological stimulus, they will shrink after the menopause.

- The surface is covered by a flattened mono-layer of epithelial cell, and beneath this are the ovarian follicles, with oocyte, granulosa layer and surrounding theca,

- then stroma medulla and a hilum where the vessels enter through the mesovarium. the size and position of the ovaries varies between puberty and menopause,

• Ovarian Enlargement:

Due to FSH and LH hormones.

Follicular luteal cysts can occur and theca -lutein cyst up to (15 cm) in size in response to very high level of chorionic gonadotrophin as with trophoblastic disease.

- Hyper stimulation syndrome can occur with massive enlargement of ovaries and development of ascites in response to doses of gonadotropins injection during fertility treatment.

- Polycystic disease.
- **Ovarian pregnancy:** uncommon, associated with IUCD use or tubal pathology and infertility, patients usually present with feature of extra uterine pregnancy or bleeding from corpus luteum.

• Spiegel berg criteria:

1. The tube including the fimbria is intact and separate from the ovary.
2. Gestational sac occupies the normal position of the ovary.

3. The sac be connected with the uterus by the ovarian ligament.
4. Ovarian tissue demonstrated in the wall of the sac.

• Ovarian Endometriosis:

- Associated with endometriosis, if endometriosis more than **10cm** may need lapratomy with possibility of oophorectomy or laparoscopic cyst aspiration,

- R by LHRH analogue, the laparoscopic dissection of the cyst lining or destruction with KTP (potassium –titan YL phosphate laser).

- Functional cysts:

Rarely exceed s diameter of 5cm, if its occur in follicular phase when the Graafian follicle fail to rupture at the expected time. Follicular cysts may arise as

- a consequence of excessive ovarian stimulation with drugs like clomiphene or HCG and less in women on CCP,

- if its occur in early normal pregnancy they will usually disappear in the second or third month of the pregnancy.
- **Ovarian Tumours:**
- **50%** are benign epithelial tumors.
Of malignant tumors,

- 90% are epithelial in origin, 10% of sex cord or germ cell origin or metastases from primary tumors elsewhere in the body.
- Tumours of Border Line Malignancy:

Group of tumours which are intermediate in both behavior and histological features between benign and

- those obviously malignant about 10%, clearly defined histopathological group of serous and mucinous tumors. Show all feature of malignancy but no stroma invasion.

- Prognosis depend on tumour type and extent of spread if occur in young ovarian cystectomy or unilateral oophorectomy if > 40 years or complete her family do **TAH+ Bilat** salpingo oophorectomy.

• Malignant Disease of the Ovary:

• Risk factors:

1. Reduced family size.
2. Late age at first conception.
3. Null parity.
4. Early menarche.

5. Late menopause.
6. Family HX.
7. Fertility drugs.
8. Irradiation to ovaries.
9. White patient.
10. High socio economic state.
11. Blood group A.

• Reduced Risk:

1. Multi porous patients.
 2. Breast feeding.
 3. Low social class.
 4. Japans, Chins and black women.
 5. Blood group O.
- ✓ Peak age 55-60 yr.

Etiology:

1. Fertility drugs.
2. Null parity.
3. Relation with endometriosis, viral infection like mump and ovarian ca unclear.
4. High animal fat intake in western.

5. Strong genetic predisposition, breast-ovarian, colon-ovarian ca and incessant ovulation theory.

Classification:

Benign Ovarian Diseases:

- **Benign Ovarian Diseases:** Its 4th common cause of admission to

gynecological parts it's about
(90%) of all ovarian tumors.

Physiological Cyst:

1. Follicular cyst.
2. Luteal cyst: less common than follicular cyst usually in right ovary. Its size ↑ from day (20-26) of menstrual cycle,

its diameter usually $< 3\text{cm}$ but maybe $\geq 3\text{cm}$.

Indication of Surgical Intervention if:

1. Complicated cyst (like rupture or torsion cyst).
2. Large cyst more than 10cm .
3. If cause pressure symptoms.
4. If U/S revealed malignant changes.

Pathological Cysts:

A. **Germ Cell Tumour**: it's the commonest pathological tumour. Usually in patients < **30** years of age, the overall germ cell tumours can change to malignancy **2-3%** and once they present < **20** years about **1/3** will change to malignancy.

1. **Dermoid cyst:** commonest germ cell tumour if ♀ < 30 years. It occurs bilateral in 11%. Its unilocular < 15cm has smooth surface with greenish-yellowish color and doughy in consistency; contain 3 germ cell layer endoderm, mesoderm and ectoderm which is the predominant layer,

so it's often lined with epithelial like epidermis and contain skin appendage, teeth, sebaceous material, hair and nervous tissue, endo dermal derivatives include thyroid, bronchus, intestine and mesoderm include bone,

- cartilage and smooth muscle
Monodrama Teratoma, the classical example is Struma ovary which contain hormonally active thyroid tissue the **60%** of cases are asymptomatic **1-4%** may rupture **3.5-10%** may undergo torsion, and **2%** contain malignant component.

2. **Mature Solid Teratoma:** Rare tumour contains mature tissues and wide variety of tissue from (2-3) germ layers. Metastases usually to brain or lung grading of tumour according to amount of immature neural tissue

3. **Dysgerminomas:** In second and third decades of life, bilateral in (10-20%) of cases

Presentation:

- abdominal swelling.
- abdominal pain.
- Acute abdomen due to accident to tumour like torsion.

- Secret AFP and BHCG, good prognosis
- Endoderm Sinus Tumours (Yolk Sac Tumours).
- Embryonal CA.

B. Epithelial Tumour: common in old age.

- 1. Serous Cyst adenoma: 50%** bilateral, unilocular, smooth outer surface, lining contain papilliferous processes, thin serous fluid, lining resembling tubal epithet. Psommoma Bodies (concentric calcified bodies in the cells).

2. Mucinous T.M: Called endo
cervical tumor (15-25%)

unilateral large reach 91kg, multi
locular, smooth surface, lined by
columnar mucus secreting cells,
thick glutinous fluid, 5-10%
change to malignancy.

- **Pseudomyxoma Peritonea:** Is a rare complication, of border line tumour, occur if spontaneous perforation of cyst lead to implantation of cells on the peritoneum and continue to secrete mucin causing matting and obstruction of bowel loops.

3. Endometrioid T.M: less common,
contain tubular glands like
proliferative endometrium

4. Brenner T.M 1-2% ; 10-15%
bilateral, lined transitional
epithet. Resembling urinary
bladder

5. Clear Cell T.M: associated with pelvic and ovarian endometriosis histological cells of hobnail cells arranged in mixed patterns like cells in cervix, vagina and broad ligament.

C. Sex Cord Struma Tumours:
4% OF benign T.M., produce hormones:

1. Granulosa Cell T.M: occur at any age, secrete estrogen in prepubertal age produce precocious puberty, abnormal uterine bleeding in reproductive age,